

REMARKS

Claims 1-21 are cancelled, without prejudice, as being directed towards a previously non-elected invention.

Claims 22-36 are pending in the application.

Claims 22-29 and 31-36 are rejected.

Claim 30 is objected to.

Claims 22-29 and 31-36 are rejected under 35 U.S.C. 102(e).

Claims 22, 29 and 30 are amended.

Claims 37-38 are new.

No new matter is added.

Claims 22-38 remain in the case for consideration.

Applicant requests reconsideration and allowance of the claims in light of the above amendments and following remarks.

Interview Summary

On November 17, 2005, Applicant talked to the Examiner Matthew E. Warren regarding rejected claims 22 and 29. Applicant proposed amending claim 29 substantially as follows: *a first trench region formed in the low voltage region to define a first active region having a top surface, the first active region having a protruded edge portion-surface, that extends above the top surface.* The Examiner said that this amendment could overcome the pending rejection for this claim.

Next discussed was the rejection of claim 22. Applicant argues that the reference Kim does not anticipate each and every element of this claim. In particular, the following recitation of claim 22 is not shown by Kim: *wherein the step region is spaced apart from a vertical axis passing through an edge corner of the second active region toward the second isolation layer adjacent to the vertical axis.* Examiner said that the claim language needs to be changed so that this language better defines the invention. Examiner said that Kim, FIG. 32, is not drawn clearly enough to be sure that the step region is or is not spaced apart from a vertical axis passing through an edge corner of the second active region. The Examiner suggested that the claim language should focus on a specific portion of the step region (like a vertical section thereof, for example), as being spaced apart from the vertical line.

Claim Rejections – 35 U.S.C. § 102

Claims 22-29 and 31-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Kim, et al., U.S. 6,642,105 B2 (“Kim”).

Applicant respectfully traverses the rejections.

Claim 22 is amended to recite the limitation that the bottom portion of the step region is spaced apart from a vertical axis passing through an edge corner of the second active region toward the second isolation layer adjacent to the vertical axis. FIG. 13, for example, shows the bottom portion of the step region, encircled and labeled “F” in the figure, spaced apart from the vertical axis 79.

Kim fails to show the bottom portion of the step region, as in FIG. 32, spaced apart from such a vertical axis, as recited in claim 22. In fact, Kim shows the bottom portion of the step region to be directly over, i.e., not spaced apart, the edge corner of the active region, which is defined to be the location of the vertical axis. Thus, applicant asserts that Kim fails to show each and every element of claim 22. Withdrawal of the rejection for this claim is therefore requested.

Claims 23-28 and 37-39 depend from claim 22 and inherently include all of the limitations of the base claim. As discussed above, the prior art does not teach the limitations of the base claim much less the further embodiments of the dependent claims. Therefore, claims 23-28 and 37-39 are allowable for their dependency and their own merits. Allowance of these claims is requested.

Claim 29 is amended to recite the limitation that a first trench region formed in the low voltage region to define a first active region has a top surface, and the first active region has a protruded edge portion that extends above this top surface. FIG. 27 of the Specification shows an example of this. Here, the protruded edge portion is labeled “P”, which protrudes above the top surface of the first active region 151.

Kim fails to show any protruding edge portion that extends above the top surface of the active region. For example, the first active region 1a has an apparent flat top surface that does not have any protruded edge portions extending upward above this flat top surface. Thus, applicant asserts that Kim fails to show each and every element of claim 29. Withdrawal of the rejection for this claim is therefore requested.

Claims 30-36 depend from claim 29 and inherently include all of the limitations of the base claim. As discussed above, the prior art does not teach the limitations of the base claim much less the further embodiments of the dependent claims. Therefore, claims 30-36 are allowable for their dependency and their own merits. Allowance of these claims is requested.

New Claims

New claims 37-38 each find support in the Specification in, for example, FIG. 13.

Allowable Subject Matter

Applicant thanks the Examiner for noting that claim 30 is allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

For the foregoing reasons, reconsideration and allowance of claims 22-38 of the application as amended is solicited. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

Respectfully submitted,

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